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DISEASES OF THE NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

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DISEASES of the NERVOUS SYSTEM

(PUBLISHED MONTHLY)

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

Ambulatory Electro-Coma Therapy of Psychoses*

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With the collaberation of
Maurice D. Friedman, M.D.
and Andre A. Weil, M.D.

The value of shock treatment of psychoses has been firmly established. Its widespread and growing use as well as the number of patients benefited attest to its worth. Now the treatment is passing through stages of improvement, modification, and variations in the apparatus employed, of the technique of dosage and position and of the place of treatment. One of the modifications, namely the ambulatory procedure, is the subject of this paper.

Electro-shock—or more appropriately electro-coma[1]—is at present the most commonly employed method of treatment of psychoses. It has almost entirely replaced metrazol in the treatment of depressions and rivals insulin in the treatment of certain forms of schizophrenia because it is safer, easier to administer,[2] and does not require as large a staff. Electro-coma therapy was introduced as a hospital procedure, but several workers pioneered its use for ambulatory patients. Myerson,[3] Strecker,[4] Wender, Balser and Beres[5] were among the first to demonstrate the feasibility of out-patient treatment. Recently Impastato[6] compared favorably a series of out-patients with a group of institutional cases. Patry[7] reported the successful administration of electro-coma as an office procedure made possible by a special restraining canvas.

One of us (J.L.F.) treated occasional out-patients in the University Hospitals in 1942 and then we extended this method on a larger scale at the Neuropsychiatric Institute in 1945. We shall report here the advantages of the ambulatory method, its disadvantages, suggestions for the selection of patients, instructions to families, the techniques used, and a general summary of the results obtained.

Advantages of the Ambulatory Method

(a) *Saving prestige for the patient and his family.*

At first, shock therapy was employed only in mental hospitals, private sanitaria or state institutions. The atmosphere of such hospitals, the locked doors and barred windows, the restrictions and limitations exhaled the stigma of mental disease. Indeed, in some states it was necessary to subject a patient to a "lunacy inquest" before a probate judge so that he could be hospitalized (committed) for appropriate treatment. What a tragic Middle Ages procedure for a modern method of treating an illness which can often be successfully handled as an out-patient or clinic procedure.

A few progressive general hospitals (the University Hospitals, Cleveland, Ohio, the

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Bishop Clarkson Hospital, Omaha, Nebraska, Ford Hospital, Detroit) have permitted such treatments on their wards, and others will no doubt encourage their use. Yet the overwhelming number of general hospitals still refuse to accept shock therapy cases.

Today it is possible in many instances to spare the patient and his family the necessity of hospitalization and save them the time and stigma of court procedure and institutional care.

(b) *Saving expense.*

Hospital care is expensive—especially care in private mental hospitals. Yet the average depressed patient requires little medical and nursing care beyond the electro-coma treatment. As a rule, he does not need bed care; his condition does not require day-by-day recording of pulse and temperature as does the average surgical or medical case. For such a patient to occupy a hospital bed is often an unnecessary waste of money. Ambulatory treatment is relatively economical.

(c) *Saving hospital beds.*

Our personal experience has been that some fifty per cent of those needing electro-coma therapy can be treated as ambulatory patients. This means a tremendous number of beds saved for the more seriously ill and more disturbed patients. In view of the extreme bed shortage in all hospitals, particularly mental hospitals, this is an important consideration.

(d) *Saving time.*

In certain cases time is of prime importance. When a physician sees a depressed patient who is tense, sleepless, desperate, and who has failed to respond to medical measures, he may decide to use electro-coma promptly. Yet, so acute has been the bed shortage that many patients had to wait one to four weeks before they were admitted. This bed shortage has been equally serious for state hospitals. In some instances there has been a delay of weeks from the time commitment procedures were started to the time of admission. More than one patient committed suicide during this waiting period. Such delays can be entirely eliminated in the ambulatory method—for the psychiatrist can begin treatment at his own discretion.

A man of forty had a recurrent depression during which he felt that he had disgraced his family as well as himself. He became tense, fearful, sleepless. He grew desperate and attempted suicide with some ten seconal tablets. When he awoke, he was not relieved but rather insisted that he would try again.

This patient was brought to our Institute, his manner agitated, a haggard look on his face, panting and desperate. We tried to hospitalize him at once, but no beds were available. An electro-coma treatment was given as an emergency matter and this calmed him considerably. At first he was given daily treatments at the Institute, then he was given treatments on alternate days. This patient has made a remarkable recovery, which has impressed us with the value of prompt treatment. Indeed, in some instances prompt electro-coma therapy may be as life-saving as prompt surgery.

(e) *Saving health.*

An active patient living in his own surroundings, exposed to normal contacts, is in a better position physically and mentally to recover. Our patients who receive ambulatory treatment keep house, go outdoors for walks, even attend to their jobs up to a certain point, while those in the hospital were kept in bed more, filled in time at occupational therapy, and lived and talked symptoms and sickness. Again and again hospital patients complained that older (chronic) patients would warn them how unpleasant the treatment would be and how long it would take. Our ambulatory patients live in their natural environment. Some patients have continued at their jobs, working part time or almost full time during the course of therapy. Certainly housewives, farmers, and those who operate their own businesses have been engaged to a certain degree during the days when they did not receive treatment and when they were improved.

Two outstanding cases are those of a dentist and a lawyer—both of whom were able to attend to their offices while going through a course of treatment. Indeed the attorney went to court and won a small lawsuit on a day when he was not being treated and the dentist saw a few patients several days each week.

(f) *Other advantages*

Impastato, et al,[6] add other reasons favoring ambulatory treatment: "Since the ambulatory patient gets well while at home, there is no need for subsequent home readjustment. Such readjustment must be achieved by the hospital patient at the end of treatment."

The ambulatory method makes it more feasible to give occasional subsequent treatments, so-called maintenance doses, which are sometimes required to correct temporary slumps.

Disadvantages

The disadvantages are relatively few, provided there has been a careful selection of patients. They consist of the added responsibility on the part of the family and particularly the danger of suicide. The family must look after the patient at the stage when he may require help in eating, guidance in activity, watching for his safety. Families accept and carry out such responsibilities zealously. Indeed, relatives of a mentally ill patient are more useful and serve a more constructive role when he remains at home than when he is hospitalized. We have encountered less unhealthy solicitude in the families of ambulatory patients than in those who passively worry and fear about the patient confined to a mental hospital.

Another duty is that of transportation to and from the place of treatment. When a patient's home is far away, he can live with a member of his family or a companion in a nearby hotel while undergoing ambulatory shock treatment.

Sometimes a patient refuses to continue the treatment program. When this occurs in a hospital, the physician in charge usually succeeds by persuasion, medication, or gentle but firm escorting, in administering treatment. A timid and anxious family may not have the firmness to insist upon the patient's continuance. Indeed, his fears, which may be a major symptom of the illness, can inhibit the family's decision and action. Fortunately such interruptions of treatment are not common since most patients willingly come for treatments or most families are capable of meeting the situation. They have gone through so many days and nights of distress because of the patient's suffering that they are eager to see him complete the treatment schedule. This problem can be anticipated by instructing the members of a family in advance as to the possibility of fear, resistance, and refusal, and the best manner of handling such resistance.

The hazard of suicide is more significant. Depressed patients as a class hope or plan to "throw off the mortal coil". In some cases the urge to self-destruction is overwhelming. Such cases should be hospitalized where provisions for protection are more effective than in the average home. The suicidal danger is not relieved by hospitalization alone. These patients may require constant attendance or, if unavoidable, some degree of restraint.

This hazard for ambulatory patients can be minimized by careful selection and, more important, by the vigilance of the family and the benefit of early treatment. An experienced psychiatrist can often distinguish between the tense, active, desperate patient likely to attempt suicide and the milder, slower patient less apt to do so. One attempt at suicide is usually a danger sign. No selection can completely insure against the danger, but the techniques available at home aid in protection.

The family is instructed to provide companionship (guarding, if need be) as much as possible. In severe cases, vigilance must be constant. Sharp instruments, firearms, drugs are to be kept out of reach. Sedatives are to be given to provide sleep and lessen tension. Treatment is started promptly, for it is not uncommon to bring about a distinct relaxation and brightening of mood with the first treatment.

Fortunately our experience thus far has been favorable. In our series we have had one suspicious death (suicide?) in a patient who was scheduled to start treatment. Yet all of us have had the experience of patients' taking their lives in the period while waiting for an office appointment or hospital bed.

One patient took his life by jumping out of a window. His was a markedly agitated depression with the history of suicide by his father. The family refused to hospitalize him and treatment was started, with explicit instructions about watchfulness. Indeed, I warned the wife that she must guard her

husband: "Assume he is the President of the United States and you are his bodyguard. Don't let him out of your sight." Treatment was begun and daily shocks given. For several days there was no apparent improvement. Then after the fourth coma reaction, the patient seemed calm and cheerful. That day the wife, the night nurse, and the day nurse met in the living room to drink tea—perhaps in celebration of an apparent recovery. The patient, freed from the watchful eyes of the nurses and wife, stealthily went up to the attic and leaped out of the window.

This suicide might have been prevented by hospitalization. It would not have occurred if the wife had maintained the necessary vigilance. We should warn families about maintaining caution even when the patient shows a little improvement and we should hospitalize if it is felt that the family cannot be trusted with the important responsibility of guarding against self-destruction.

Of course, the suicidal danger is much greater in non-treated patients than in those receiving ambulatory electro-coma treatment. (Ziskind[8]). In the ambulatory method the hazard must be combated by constant vigilance on the part of the family, sedation to lessen tension, and by the hope which the first few treatments instill.

Selection of Patients

Obviously not every psychotic in need of electro-coma therapy can be treated as an ambulatory patient. Those who are critically ill to the point of requiring bed care, those who are assaultive, and those who are actively suicidal require hospital care. Thus, the first criterion is the condition of the patient. Can he be safely carried through the program?

Preference in the selection of cases should be given to depressed patients, many of whom recover in only a few weeks.[9] Schizophrenic patients require twenty or more treatments over a period of some six to ten weeks. During such a long procedure there is likely to be confusion from the treatment or difficult behavior because of the delusional ideas. However, some schizophrenics who have considerable affect disorder also can be treated provided the family understand and can control the situation.

A second requirement, closely allied, is the capacity of the family to cooperate in the schedule. They have to furnish transportation to and from the place of treatment, they must provide companionship at the time of treatment and a certain amount of guidance and supervision at home. Thus, an intelligent family who can fulfill these requisites for the patient's welfare is the second criterion.

The physical and emotional situations in the home should be constructive. If the illness be reactive, correlated with a serious clash of personalities, then the patient is better treated away from home. Also, those in charge should be understanding and capable of meeting their responsibilities toward the patient.

The third criterion in the selection of patients is the potentiality of suicide. No complete set of rules can be laid down that takes the place of the psychiatrist's experience. As mentioned before, those with a family history or a previous personal attempt are likely to try again. Those who are energetic, tense, desperate are relatively greater risks from the standpoint of suicide. However, even in those who are relatively less likely to attempt self-destruction, precautions are necessary. The family's capacity to provide vigilance is important. In some instances, the services of a special or a practical nurse may be necessary to help the family in bringing a patient to the Institute and to remain with the patient during the post-treatment recovery period.

These three provisions are easily met so that it is possible to treat over fifty per cent of patients by the ambulatory method. We have found the families of our patients willing and able to fulfill their responsibilities.

Technique and Procedures

The technique employed during the treatment is similar to that used in hospitals. The patient is scheduled to come in the morning escorted by a member of the family. He is permitted to have a light breakfast about two hours before treatment. Permitting this usual routine obviates many difficulties and the patient is more comfortable.

The electro-coma procedure is carried out and the patient remains in bed until fully awake. Following the resumption of normal

breathing, a trained nurse of our staff remains at the bedside until the patient shows a partial return of consciousness. Then a member of the family sits with him until he is fully awake and can dress himself. He is then allowed to go home and resume activities to the degree that he is physically and mentally able.

For the most part, we have employed the apparatus and the treatment schedule previously outlined.[1] Recently, however, we have used an apparatus giving the unidirectional current (Friedman[10]). This method employs the principle of a higher voltage, smaller amperage, with the electrodes applied over the motor area and the temple. A smaller dosage of electricity is thus needed. Our impression is that this variation does not lessen the therapeutic efficacy of electro-coma but does spare the cloudiness of memory so common in the method using alternating current.

Our aim is to produce a major reaction in every treatment and to carry the course sufficiently to produce good results. (Kalinowsky,[2] Lowenbach[11]). Recovery rather than a certain number of treatments is the goal. The patient is then seen at frequent intervals when psychotherapy is carried out and maintenance doses of electro-coma administered if found to be necessary.

To get good cooperation from the family we outline in advance the immediate reactions and the probable progress over a period of time. An instruction sheet is furnished them so that they are prepared for the day-to-day changes and the problems that may arise:

Instructions to Families of Patients Receiving Ambulatory Electro-Coma Therapy

A member of your family is to be given a course of treatment at the Institute. This treatment is usually successful in bringing about improvement or recovery from his nervous symptoms. Your cooperation will prove helpful towards his recovery. The following instructions may assist you in providing the best possible help:

1. *Appointments:* The patient is to report to the Institute on the mornings of Tuesday, Thursday, and Saturday at 9:00, 9:30, or 10:00, as will be designated by the doctor.

2. *Attendants:* A member of the family is to accompany the patient to the Institute, stay until the treatment has been completed, and then help the patient to return home. At the Institute this member of the family is to act as bedside companion during the period of awakening from the deep-sleep state.

3. *Care to be Given:* The patient may have a small breakfast such as fruit juice, and a cup of coffee before 8:30 a.m. of the treatment day. At the bedside the patient is to be watched until he is fully awake. Then he may be permitted to dress and is accompanied on his return home. Most patients are comfortable and need no special care afterwards. A few are troubled by headache, muscle soreness, or drowsiness. They may be permitted to rest as desired, given aspirin 5 to 10 grains, as needed. Those who feel well and are eager to be occupied are permitted to help around the house, take walks, and do as much of their accustomed work as they are capable of.

4. *Necessary Supervision:* Some patients who are nervous and very depressed are troubled by morbid and self-destructive thoughts. Such patients need to be watched carefully. As a rule, a few treatments relieve such morbid thoughts and the danger is much less after treatments have begun. Nevertheless, if, during the patient's sickness before or during treatment, he is troubled by such unhappy thoughts, it is imperative that he be closely watched. Any articles that may invite unhappy action, such as drugs, should not be available.

5. *Explanations and Attitude towards the Patient:* The patient who is ill enough to receive a course of treatment is usually in need of companionship and encouragement. He may be depressed, worrisome, and fearful. You should not make light of his distress but give as much hope as possible. Sometimes patients doubt the value of the treatments or may feel temporarily improved. As a consequence, the patient may refuse at first to continue with his treatment program. It is important for you to insist by persuasion or strong urging that the patient continue his course of treatment if advised by the physician. Success depends upon a complete treatment program.

The staff and the setting of ambulatory treatment can be modified in accordance with available facilities. Patry[7] has treated patients in his office with one assistant only, relying upon a specially devised restraint bag. I have seen a competent psychiatrist, expert in shock therapy, aided by two trained nurses, give a series of treatments in a large office suite. An ideal staff is one or more psychiatrists and two or more attendants, preferably a nurse trained in the procedure. Several rooms for recovery are advisable.

Our Institute and all hospitals have large staffs of physicians, nurses and attendants, as well as recovery rooms and other space adequate for the number of patients treated. As an aid to treatment we commonly employ

sodium amytal, gr. V to gr. VII, intravenously for apprehensive patients and those who show marked restlessness after the treatment.[12,13] We also use intocostrin in some cases for prevention of fracture complications as demonstrated by Bennett.[14]

Results

The therapeutic results obtained by the ambulatory method are pretty much the same as those obtained in the hospital. Our findings are similar to those previously reported in the literature—a high percentage of recovery in depressions and in involutional melancholias, a favorable response in schizophrenia, particularly those "loaded with affect". The response of psychoneurotic depressions varies with the acuteness of the process and the reversibility of the mood. Chronic psychoneuroses were not treated by electrocoma therapy.

Summary and Conclusions

1. We have employed ambulatory electrocoma therapy in a large group of psychoses, particularly depressions, and have found it a safe, feasible, and effective way to treat a large percentage of these patients.

2. The ambulatory procedure saves prestige, time, money, and hospital beds.

3. There must be a careful selection of cases based upon the type of patient and the responsibility and capacity of the family. Difficult patients and those actively suicidal should be hospitalized.

4. The clinical results in depressions, involutional melancholia, and schizo-affective disorders are splendid. There is as high a percentage of recovery with extra-mural as with hospitalized patients.

5. Instructions for the family help to obtain their cooperation in carrying out the program.

6. The technical phases of the current used, the pre- and post-treatment care are the same as for hospital-treated patients.

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Cataplexy

(Diagnostic Elements, Interpretation and Management)

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This is a report of extended observation of the phenomenon, cataplexy, in a selected group of eight individuals during their childhood, adolescence and adult life, up to the present date. Analysis of this observation enables one to arrive at a substantial understanding of the nature, diagnostic elements, prognosis, therapeutic management and prevention of this and related disorders. Recognition of cataplexy early in the life of the child by the pediatrician or family physician is very important.

Cataplexy is characterized by sudden complete loss of muscular tonus, impairment of consciousness and falling to the ground. Not always is there unconsciousness; frequently the individual is merely unable to make the slightest body movement or to speak. In such cases the facies is pale, the eyes are partly open, the pupils do not react to light, the pulse is rapid, the respiration is irregular and general sensibility is absent. Immobility of the musculature may be generalized or confined to one side.

In some instances the sudden muscular immobility is followed by mild or severe convulsive movements. In others the patient goes through several attacks of sudden muscular immobility exclusively and at another period he may suffer attacks of convulsive seizures only. One of my cases (No. 7) at the age of 10, presented daily, during a period of two weeks, three or four attacks of complete unilateral muscular relaxation, with a slight disturbance of consciousness, each following an outbreak of laughing. This condition lasted two years. At the age of 14, with the onset of menses, she had many such attacks, all of the hemiplegic form, but without any organic symptoms of cerebral involvement. There are cases where typical epileptic attacks in childhood are succeeded during adolescence by typical cataplexic incidents and those in which cataplexic attacks of early life disappear and in adult period epileptic seizures develop.

The great variety of manifestations superimposed on, or replacing the chief manifestation, created confusion in the minds of early observers and gave rise to reference to this affliction under different titles. Higier in 1889 termed it "Equivalent of Epilepsy," H. Jackson in 1890 called it "Partial Epilepsy," Hartenberg in 1922, "Incomplete Cerebral Inhibition," R. Hunt in 1924, "Static Epilepsy," K. Wilson in 1928, "Inhibitory Epilepsy," T. Colomer in 1932, "Akinetic Epilepsy". Careful reading of their observations reveals the uniformity of the fundamental symptom, namely: sudden and lightning-like loss of the postural tonus with complete relaxation of body musculature and an almost imperceptible loss of consciousness. The muscular relaxation may be general, unilateral or segmental (limited to one limb). The disturbance of consciousness may be so brief that it may pass unnoticed. The entire process may last one or two minutes or a fraction of a minute. Amnesia of the occurrence may be complete: two patients (Nos. 2 and 4) of my series, after falling, because of loss of postural tonus, asked: "What happened?"

Before entering into the problem of the mechanism causing the cataplexic phenomenon and for the purpose of establishing a probable diagnosis and prognosis in infancy when the need for treatment is most urgent, let me review briefly the histories of the eight patients, whom I had the opportunity of observing for a number of years, during several stages of their lives. This, in the writer's opinion, is the best means of obtaining dependable deductions for therapeutic procedures.

Case Reports

Case 1: O. X., female, present age 38. At nine, she had one attack of genuine epilepsy (loss of consciousness, tonic followed by clonic muscular contractions, biting the tongue, incontinence of both sphincters); no disturbance for the next five years. At the age of 14, before the onset of menses, the girl commenced to have cataplexic attacks (sudden loss of postural tonus, falling;

no disturbance of consciousness, inability to move a single limb, duration two minutes). These attacks continued until she was 18, varying from one or two a week, to one in two months, without disabling her for her daily duties. At 19, she commenced to have attacks of sudden aphasia, with slight disturbance of consciousness lasting one half to one minute. Since then and up to the present, there have been several attacks of aphasia and many attacks of cataplexy, following the slightest emotional disturbance.

Case 2: K. Y., male, present age 40. At ten he had the first attack of cataplexy. Thereafter attacks were rare. During some of them he would fall; in others, while seated, he would be unable to move or speak, nor to comprehend when spoken to. At the age of 15, he had one genuine epileptic attack. No attack of any kind occurred to age 27, when cataplexy returned. Sometimes an attack would last only half minute; he would fall to the ground but after a moment of complete helplessness, he would get up unassisted. In the last two years he has had five attacks, with no organic somatic disorders however, except hypertrophy of the thyroid gland.

Case 3: C. D., female, present age 37. At ten, I witnessed her first epileptic attack. Following intensive treatment she had no more epileptic disturbance until she was 15, when characteristic attacks of cataplexy set in. When the anti-epileptic treatment was discontinued at 14 against my advice, she developed somnambulism. Within three months she suffered five such incidents. The cataplexic attacks, sudden loss of postural attitude were accompanied by only slight disturbance of consciousness. They now occur at rare intervals but the anti-epileptic treatment is never interrupted. In other respects the patient is in excellent condition.

Case 4: M. H., male, present age 23. At five, his mother noticed that, while playing with his older sister, he would suddenly fall. A minute later he would get up unassisted and resume his play. There was a slight disturbance of consciousness, manifested in the child's difficulty in finding the exact point where his play left off before the attack. The child was placed at once on a regime and medication of anti-epileptic type. Since then similar attacks would occur at rare intervals. From the age of 15 to 16, there were no attacks. The patient grew up to manhood in full possession of his faculties. No further seizures occurred, except an occasional cataplexic spell in which he feels a sudden relaxation of both upper extremities, without loss of consciousness; then things drop out of his hands. He has been under continuous treatment.

Case 5: B. S., female, present age 33. At 14, an attack of petit mal, evidenced by sudden drowsiness and cessation of speech. She came out of it in a few seconds. Under treatment there was no recurrence. At 16, incidents of sudden automatic acts with her hands and loss of memory of her last speech occurred. There were three of these attacks within a period of two years. Although treatment continued, at the age of 20 the first cataplexic attack appeared, evidenced by sudden loss of posture and falling with preservation of consciousness, the incident lasting about half a minute. Attacks occurred very rarely if patient adhered to regulations in her mode of living and medication. There has been no recurrence of any disorders within the last two years. Her general health is good.

Case 6: P. O., female, present age 30. At six she was subjected to an attack of petit mal, with sudden disturbance of sight, speech and consciousness. Treatment was instituted at once and instructions given to continue with it indefinitely. Except for one similar attack three months later, there was no recurrence for a whole year. At that time a cataplexic attack occurred. While standing before the blackboard in the class room she suddenly lost, as she described it, "the feeling of her legs" and found herself on the floor. A half minute later she got up unassisted. There was a very slight disturbance of consciousness. It appears that her mother had become negligent with regard to treatment, which, however, was now resumed more conscientiously. The attacks did not recur for ten years. At 26 she was married and a year later, during pregnancy, cataplexic attacks recurred. In the last three years she has had five attacks. Otherwise she and her child are in good health.

Case 7: L. W., female, present age 39. At six she commenced to have cataplexic attacks of a severe character. During the first two weeks patient had three or four daily seizures of sudden muscular relaxation with a slight disturbance of consciousness. Curiously enough, they came on after an outbreak of laughing. This condition lasted two years. When the true interpretation was arrived at and anti-epileptic treatment instituted, the attacks disappeared. At the age of 14, with the onset of the menstrual period, there was a return of cataplexy. This was controlled by a resumption of the neglected treatment. During pregnancy at 24, there was a return of the cataplexic attacks. Within the last 2 years no seizure has been reported. It is interesting to note that the attacks of complete muscular relaxation have always been unilateral.

Case 8: A. N., male, present age 42. At 12 he had several attacks of petit mal. They were kept under control for two years with recurrence at 15. Again kept under control, the patient was able to complete his high school education. At 20, while at college, he had the first attack of cataplexy: loss of postural attitude for a half-minute and slight disturbance of con-

sciousness. Persistent treatment prevented the occurrence of the attacks for three years. Up to the present there has been only a very occasional attack. When one occurs, patient, who is a very active business man, goes to bed for two days and resumes the anti-epileptic treatment. Otherwise he is in good physical condition.

Discussion

While there is a considerable variability in localization of the disability, in the lower or upper extremities, in unilaterality or bilaterality, in the degree of impairment or no impairment at all of consciousness, in the association of other manifestations, such as loss of speech or no loss at all, in the duration of the attacks from a few seconds to two minutes, in the fall to the ground or no fall, the fundamental phenomenon, namely the sudden and lightning-like suspension or dissolution of the muscular tonus (postural attitude) and voluntary motor inhibition or motor impotence (akinesia), dominate the scene in all cases. We have observed from the histories of the cases that from infancy to adult life there may be present also pathological incidents of different types occurring before or after a period of cataplexic attacks, i.e., convulsive manifestations, attacks of petit mal or somnambulism. We have also observed that all these different morbid phenomena appear less frequently or disappear entirely when the cataplexic occurrence is recognized and proper treatment instituted. The value of recognition of the disorder at an early age and of continuous follow-up for an extended period is seen, for in none of the patients of the series is there any indication of mental deterioration at their present adult age.

Physiological Interpretation of Cataplexy

In an epileptic individual the motor cortical cells presumably possess a latent energy which, during a paroxysm, will suddenly discharge like a Leyden's jar and will be followed by their exhaustion. Thus we witness convulsions followed by post epileptic pseudoparalysis. Or one may consider instead of cellular stimulation a totally different situation, namely a cerebral inhibition: sudden suspension of inhibitory action of the cortical cells on the subcortical ganglia, which we have good reason to believe have an influence on muscular tonus. K. Wilson (Modern Problems in Neurology, 1928, p. 49) believes that the loss of voluntary movements is due to an inhibition of the same motor centers which, in a convulsive seizure discharge their latent energy. Sherrington's experiments demonstrate the existence in the cortex of two distinct localizations, one for contractions of muscles, the other for their relaxation. These two cerebral functions are intimately connected. A disassociation of these two functions will produce corresponding phenomena: a discharge of the kinetic mechanism will result in convulsions, a discharge of the relaxation mechanism will be followed be phenomena observed in cataplexy or some other milder or less conspicuous manifestation, described in the series of the eight cases, either in the motor, sensory or psychic sphere. On the basis of this conception (proven experimentally), we are in a position to view logically the phenomenon of cataplexy as a functional arrest of the cortical area which contains the voluntary motor system.

In the cases described we have seen a succession or an interchange of a variety of morbid manifestations from infancy to adulthood. At different periods in the life of the patient we observe cataplexic attacks, epileptic convulsions, attacks of petit mal, or somnambulism. Physiologically this means that we are dealing with varieties of functional reactions of the cortical cells, either stimulation or inhibition of varying intensity. Consequently all individuals subject to such cerebral reactions, belong to a special category. To give a comprehensive name to this group of sufferers, we are warranted in applying the term: "epileptic". This term has a definite anatomical and physiological basis, as we can conclude from the case material. The different manifestations are only variations of the same underlying special state of the cortical cells. For this reason a newer term "Cerebral Dysrythmia" may be aptly used. Recent encephalographic studies show variations in the waves on the electroencephalographic pictures, whether they are taken in the classical epileptic seizures or in the less conspicuous attacks, such as petit mal or cataplexy (Gibbs, Davis, Lennox, in Arch. of Neur. and Psych., 34:1113, Dec. 1935).

In spite of this clinical and encephalo-

graphic variability, all these conditions belong in the same nosological type. The experience of some authors shows also great variability in the results of therapeutic management. Personal experience in this direction shows the impossibility of establishing set rules for particular drugs. Where some anticonvulsant preparations were useful in grand mal and not in petit mal, in the hands of others contrary results were obtained. A report that dilantin (diphenylhydantoin sodium) gave better results than the older barbiturate preparations may be contradicted by research of others and of the writer. At all events in the cases under discussion, it is the writer's personal experience, that cataplexy, the special subject of the present contribution, should be considered therapeutically on the same basis as epilepsy. The prolonged observation of my eight patients during childhood, adolescence and adulthood justifies this conclusion. Their pharmaceutical treatment, regimen, mode of living, occupation, emotional and intellectual life have been for all those years closely watched and more or less kept under control. Cataplexic phenomena in their initial manifestations were considered as epileptic in the broadest sense of the term and the parents were informed of the serious significance of the disorder and their cooperation was demanded. Cataplexy even in its mildest form is an epileptic phenomenon.

Summary and Conclusions

Eight patients have been under uninterrupted observation for a number of years, in early childhood, adolescence and adulthood. The special morbid incidents described showed a close relationship to each other and to cataplexy. The relationship is not only clinical but also physiological. On this basis a well-established treatment was instituted and kept up during the many years of observation. Early recognition of the disorder prevented mental deterioration in the series under discussion. All eight patients are at present of middle age and carry out satisfactorily their share in the life of family and community. Cataplexy is a serious and menacing disorder of the nervous system.

The Analyst Remains Silent

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An infant threatened, attempts to have his own way. His security depends upon the assumption of absolute despotism. At first, he might oppose his own submissiveness when submissiveness dissolves a necessary illusion of omnipotence. Under these special circumstances, slight frustrations frighten him. Fright induces rage. Rage develops tensions, —tensions that are ordinarily drained through the proper exploitation of glandular and muscular structures.

Under the aegis of this culture, tensions are uniformly denied primitive expressions. However, polite impassivity is never as neutral as it seems. Energy is indestructible. The one exit blocked, energy seeks substitute avenues of escape. These auxilliary escapes often channelize the cardiovascular system. This is kindergarden stuff for the psychosomatic specialists. Yet this is not entirely correct. Perhaps it would be more proper to say that environmental threats, provocative of fear, then rage, always surcharge the cardiovascular ensemble. Threats key the heart and vessels to alertness, preparatory for action. Then cultural mores intervene and interrupt the sequence,—the reflex arc. Consequently, the cardiovascular system remains in a state of tension preparatory for the action that never comes. Our culture abhores independently determined violent activity. Violence, throttled, turns back upon itself and kills the one who desires too much. The adult despot finds himself confronted by an insoluble conflict.

Inordinate desires, neurotic ambitions, are

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always charged with infantile despotism. Many psychoanalysts are ambitious. Their personal analysis never completely dethrones the internal sovereign. The demands of the infant king become inseparably interwoven with the demands of the analyst. This creates tension because the conscientious analyst must guard himself against tyranizing his patient.

Megalomanic aspirations, frustrated by the incomprehensible complexities of the patient, is provocative of tension. However, fierce tensions are developed in less subtle ways. The patient resists the dissolution of his neurotic defenses. As often as not, he resists and hates the analyst. On these occasions, he can be most abusive. In the practice of every analyst, there is always some patient in some phase of abusiveness.

There is nothing so unusual in this. Everybody seems to fear the psychiatrist. Open reduction of this fear is often attempted through subjecting the psychiatrist to humiliating ridicule. In social circles, the psychiatrist has been told on numerous occasions the story of his fellow professional who exclaims, while interviewing the patient covered with imaginary bugs: "Stop. Don't brush those bugs on to me."

Or someone upon introduction to a psychiatrist, will clown: "There is nothing wrong with me, Doc!" Following this remark, the man will trill his lips with his fingers while making raucous noises in his throat.

Almost every joke, almost every cartoon, that presents a psychiatrist as the central figure depicts the psychiatrist as being more crazy than his patient. An abusive attitude towards psychiatry exhibited by an uninformed physician is almost intolerable and forbearance is achieved only through the realization that fear subsumes such neurotic and senseless conduct. It is inhuman and unfair to expect any man to remain passive when made the butt of a humiliating joke. Forbearance while under attack, requires the suppression of emotion. Emotional suppression ends in the accumulation of those intracorporeal tensions that might lead to heart disease.

In his professional milieu, the analyst may not consciously comprehend the verbal productions of his patient. Nevertheless, the unconscious is always able to recognize an enemy. The smell of the enemy causes the analyst to bristle with fury. In spite of this the disciplined therapist remains silent. The laryngeal intermediary, the substitute for direct muscular activity, is denied expression. A female analyst told me that after a day's work, her throat ached with unspoken resentment. She died suddenly from coronary thrombosis. Another analyst carved on wood to ease the pains in his chest and arms resulting from the tensions accumulated during the analytical hours. Karl Menninger advocates exercise or games for the dissipation of pressures. A well known analyst refused to treat—"that murderess" because the analytic situation would not permit him to meet her on even terms. In the past two years it has come to my attention that seven analysts, important to the future of society have sustained cardiovascular accidents. Three of this number died.

I do not intend to martial evidence to support the contention that certain cardiovascular diseases are demonstrative of psychosomatic tensions. Suffice it to say that on Okinawa, where neuroses were minimal, Benjamin, Fink, Steiner and Edwards discovered relatively little postmortem evidence of arteriosclerotic pathology.* I do not believe this to be a *post hoc ergo propter hoc* proposition. Where there is no neurosis, there is no psychosomatically induced cardiovascular disorder.

Coronary thrombosis is the doctors' disease. Even laymen know the "doctor" died because his heart could no longer stand the strain. Most physicians during conduct of their professional routines are reasonably active. Even the non-analytic psychiatrist is provided ample opportunity for discharge of tensions through the verbalizations to the patient.

Activity is in keeping with the more recent trends in cardiotherapy. But, the analyst finds himself committed to a program in which his silence and his passivity constitute important items upon the therapeutic agenda. To his consternation, the sensitive analyst discovers himself chained to a profession which expects temperance, forbearance and almost ecclesiastic dignity. He who becomes

*James Clark Moloney: "On Oriental Stoicism," *Amer. J. Psych.*, July 1946.

a psychoanalyst, ceases to be a reactive human being. The practice of psychoanalysis sets a stage predisposing toward the development of occupational disease. Though necessary for the welfare of the patient, it is psychosomatically unhealthy for the analyst to remain silent.

Future Proposals with Respect to the Function of Personnel Consultation Services

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The purpose of this paper is to indicate how the functions of the neuropsychiatrist and the Personnel Consultation Service may be expanded and utilized in the future.

The psychiatrist should continue as part of a team which recommends to the various echelons of command the best methods of aiding adjustment and preventing maladjustment. The psychiatrist cannot function alone. He must realize that further research, revision of older concepts, and broadening of our body of knowledge in the school of added experience is necessary. He should know his limitations and not seek to oversell psychiatry.

The psychiatrist should strive continually to avoid: (1) Interfering with administrative and command function; (2) Stepping out of his province, embarking on treatment which he cannot finish or making promises he cannot keep; (3) Engaging in procedures or making recommendations which may be helpful to an individual but destructive of group morale; (4) Overrating his therapeutic armamentarium; (5) Implanting misconceptions or concepts the implications of which the soldier does not fully understand or is not ready to receive; and (6) Coddling or fostering feelings of inadequacy or evasion of responsibility to the group.

The psychiatrist should strive constantly to affirm his primary intention of making the man stand on his own feet, on benefiting the group, and in aiding the commanding general in maintaining the highest morale and the best type of discipline.

While it is imperative that each enlisted man be utilized and properly assigned to those positions in which he can render maximum service, there always may remain a certain few who, because of ineffectuality, inadaptability, misconduct, or incapacity cannot be adapted to the military service.

A. *General Considerations*

1. *Problem.*

In view of the fact that a large peacetime Army is necessary and universal drafting of our youth inevitable, the lessons learned in the Personnel Consultation Services should prove of future value. With respect to universal training, the psychiatrist working closely with other channels of command, particularly the Information and Education Branch is in a position to estimate and propagandize the value of a peacetime training program, not only to the nation-at-large, but to the young man himself. Clear exposition of the psychiatrist's experience in this war can aid in overcoming civilian resistance and prejudices in regard to the value of military training. The educational and adaptive importance of Army training and discipline must be stressed.

It is much better for the emotions of the young man, his family, and the civilian population at large for the youth to be gradually prepared and trained to know how to meet any emergency should it arise than to run right smack into it without any emotional preparation as we did in this war. So many of our problems at the Personnel Con-

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sultation Service were due to emotional situations and home difficulties because neither the soldier nor his family were ready to meet the stress of war-time life. These reactions not only caused lowered efficiency but were harmful to the group and the entire nation.

The Army was unjustly blamed for these difficulties when the main source of difficulty lay in our civilian ways of life. For instance, despite the fact that we have probably the best civilian educational system in the world, the Army fell heir to the problem of training many boys who were not fit and not sufficiently disciplined for the battle of life as a whole. Some of these young men were coddled and spoiled. Others were poorly educated or did not know how to use their educational advantages. A few were irresponsible or selfish and cared very little for the welfare of the group as long as their immediate needs were satisfied. Many were youngsters with emotional conflicts which received little or improper attention in civilian life.

The line officers and their advisors including the psychiatrists, psychologists, the Information and Educational Officer, etc., had to wrestle with these problems. Many valuable lessons were learned and useful contributions were made. Therefore, we should continue to utilize and expand the experience gained in this war. The proper application of the principles of military training should be of great value from a practical, moral, psychologic, and sociologic standpoint. The alternative paths, i.e., to scrap our knowledge, forget it and start all over again if the need arises, is certainly impractical and unwise. For the sake of future welfare the training received in the Army can become a valuable supplement to and may be an improvement on the civilian educational systems.

The Army has made great strides in the art, science, and method of teaching and imparting first-hand information to the student. The instructional methods and training aids are superior to those of civilian institutions and are of more practical value to the trainee. This is particularly true with reference to educating large groups of individuals. There is less waste of time and less confusion. The Army places more direct responsibility on the instructor. It stresses the qualities of inspiring leadership. Contrary to the concepts in some civilian institutions, the military instructor is held responsible for the trainees' inability or failure to learn. Other methods than that of the lecture such as discussion, application, etc., are used. All the psychologic and social facts involved in good teaching are considered. The lecturer is forced to prepare his subject matter before each session and have it so well organized that he has little need for recourse to lengthy notes. In the Army, the instructor is retained or relieved purely on his ability to put himself and his subject matter across. He knows his men. His lectures and demonstrations become a vital meaningful part of the soldier's conceptual and practical knowledge which they can apply to real situations at the earliest possible convenience. There is no lazy droning from an antiquated text or from notes yellow with age by an uninspiring instructor who is as out of touch with the group he confronts as he is with the vital important parts of his subject matter. The future value to education of this practical, vital side of Army instruction which is based on sound psychologic principles of human behavior and appeal to individual interest should be stressed.

2. *Program:*

The psychiatrist and psychologist, the Information and Education officer and company commanders and Army educators can help foster a retention and continued improvement of Army instructional methods and open new practical roads in education, heretofore only considered theoretically or for small groups.

(a) We can stimulate specialization particularly along scientific lines of those who show special adaptive skills. The value demonstrated in this war of critically needed specialists working as a team will become more evident in the future.

(b) We can aid in the providing of incentives for men to enter or remain in the Army and to realize the necessity of military training. We can help stress the importance of the man's duty to the group so that he takes military education as a matter of course just as he does civilian education. For many an individual the Army will play a more important part in shaping his future life than

school and many will feel more important in the Army than in high school or college. The Army can be of great value in the maturing process. In this effort the psychiatrist and psychologist can be of continued aid.

(c) The application of principles based on previous experience at the Personnel Consultation Service, which we have outlined previously in this paper may prove valuable in the future. The psychiatrist can contribute along with others to a careful, leisurely, well-thought-out coordinated program of training. This must have as its basis the good of the group and the individual's importance as part of a team but must include thorough understanding of the differences in individuals and their background. It must stimulate a man to think for himself, discipline himself, and engage in creative expression to prepare him better for his future adjustment in life. Certain other problems concern themselves with a closer link with civilian ways of life and ideas. Indoctrination and education of the civilian population with regard to the above mentioned facts are necessary.

(d) We must not only focus our interest on the new soldier but on the soldier who has been discharged and is having difficulty in readjustment to civilian life. Some may be dissatisfied with civilian life or may be antagonistic toward civilians. Others will continue to be resentful of the Army or its discipline and retain their unhealthy emotional attitudes. Not only must we work with civilian agencies but also with other branches of the Army so that we may counteract the bad effects on morale in this country that disgruntled individuals may foster. We must examine the reasons therefore and see what can be done to correct some of the situational factors involved.

B. *Specific Considerations*

Briefly, the services of the Personnel Consultation Service can be utilized and expanded in the following manner.

(1) *At the Induction Centers or stations:*

Longer and more careful study of the individual soldier both by psychiatric and other medical teams for a minimum period of 30 days before a man is assigned to engage in formal training would save the training centers and the Army a great deal of future difficulty. Here the soldier can obtain a good preview of what Army life is like by living under conditions approximating barracks-life. The Army can obtain a better idea of what the prospective trainee is like. Coordination of the induction psychiatric program with psychologic, information and education, and assignment services are important.

The soldier's indoctrination should begin at the induction station. There should be a closer link with draft board and pre-induction examining teams. This center can also serve as an educational and information service for prospective trainees some time before they enter the Army so that they may be indoctrinated before induction. Some colleges have made use of this method of attracting students by disseminating information and inviting them to visit. In a similar manner, the more attractive features of Army life can be pointed out before the soldier's induction.

The psychiatrist then can serve as part of an indoctrination processing segregation program. Furthermore, the unfit can be weeded out more effectively. The slower ones or those partially unadaptable can begin to receive study or care for their difficulties. The program can be more carefully graded or more gradually adapted for them.

(2) *Advisory Psychiatric Program:*

A general program designed to apply the proper psychologic methods of approach to the soldiers in all the units of the training center beginning with the smallest group—the squad—has proved valuable. Special psychologic studies of individual soldiers in small groups will be helpful as a special research problem and in the stimulation of morale. In addition, these observations would serve as control studies for further research in the problem of maladjustment.

(3) *Special Training Units for Ineffectuals:*

In these special units, the Personnel Consultation Service, working in conjunction with the line officer aids in fashioning a program of training for the ineffectuals. The psychiatrists' primary function here is to stimulate a feeling of confidence in these who have been culled out because of certain personality difficulties. With the help of

another medical officer, the training should be graded to meet the individual's capacity by means of a definitely prescribed work program. If he is not pushed too hard at the outset, sees others who have similar difficulties and finally is convinced that he can be of value and can do his part, this type of soldier may be returned to a unit where his special skills or adaptabilities may be used or at times to a line outfit.

(4) *Special Barracks Clinic Unit for Treatment of Small Groups:*

This barracks which is organized by the Personnel Consultation Service without hospital atmosphere for brief psychotherapy and further study of certain of the moderately unfit. These individuals may be culled from the line or the special training unit. It can serve as an outpatient clinic in close connection with the battalion where the Personnel Consultation Service can have more facilities to observe the man over a 24 hour period, in smaller groups, and can have more control over his treatment.

(5) *Second Echelon Mental Hygiene Clinic for Individual Treatment:*

No matter what the process of selection, segregation and treatment is, many of the maladjusted will continue to be referred to the Training Center Personnel Consultation Service for special individual therapy by the psychiatrist. Some of these individuals will need more study and therapy than can be given in the Personnel Consultation Service which serves as the first echelon. Therefore a second echelon clinic to treat these selected individuals on a longer term psychotherapeutic basis is a vital need before hospitalization is considered. For instance, suppose 20 men are referred to the Personnel Consultation Service each day. Of these, 2 or 3 will require more careful study or individual psychotherapy. The establishment of this type of clinic removes the necessity in many instances of hospitalization which at times is undesirable as the hospital atmosphere may serve to increase the feelings of inadequacy and inferior motivation. It would also aid in more definitely establishing which cases are in need of hospital care, or administrative action.

(6) *Follow-up:*

A careful system of follow-up based on adequate case recording which follows along with the soldier is necessary. These records should be designed to give as full a description of the soldier's personality and background and an organized program whereby the ineffectual soldier's progress can be studied in the various units or installations to which he may be assigned and an evaluation of the opinion, recommendations and psychotherapeutic procedures is not only important to our own psychiatric education but is of value to the Army. In this manner, further study of the soldier's progress is facilitated.

Along these lines, closer contacts with civilian groups including psychiatric, hospital, social, or other agencies who were interested in the soldier prior to induction or subsequent to discharge is part of the follow-up program. American Red Cross facilities and trained Army social workers form a vital part of this program.

(7) *Station Hospital Function and Institution of Medical Program:*

The Personnel Consultation Service Psychiatrist, because of his interest in the broad general problem of adjustment and illness, should operate in more close connection with the Station Hospital. He should be part of a coordinating and directing medical agency so that a better integrated understanding of the total psychosomatic problem of maladjustment is arrived at, in a similar manner more streamlined procedures of disposition or treatment can be instituted. This is particularly true in the follow-up of ineffectuals. There are many mutual specific and general problems which the Commanding Officer of the hospital, the Chief of the Neuropsychiatric Service, the chiefs of the various other medical and surgical services, the liaison officer and dispensary surgeons have in common with the ASFTC psychiatrist. By functioning as part of this team and being interested in the whole problem of medical care, the psychiatrist can increase his value. He must be given more leeway in admission and in the flow of cases to and from the hospital for further study. The second echelon clinic can be of value in this connection.

The ASFTC Neuropsychiatrist cannot func-

tion alone medically. He must be part of an integrated medical set-up. While the psychiatrist spreads his antennae outward, the Personnel Consultation Service must have some of its roots in a well-integrated medical-hospital program. In this connection more facilities for special treatment procedures should be allotted to the Station Hospital.

(8) *Disciplinary Barracks and Rehabilitation Centers:*

The cases of severe misconduct and the repeated offenders offer the gravest challenge to psychiatry and to the Army insofar as treatment and rehabilitation is concerned. This view has been expressed by the Commanding General of the ASFTC at Fort Wood. In the group who are sentenced to a disciplinary barracks or rehabilitation centers, Personnel Consultation Service set-ups which are designed to aid the Commanding Officer to study and follow up further the reactions of these men and keep in the formulation of principle of treatment based on thorough research and adequate case recording is an important fact of our future function. Here we may be faced with a thorough re-orientation of some of our psychiatric and social ideologies. The Army offers an excellent opportunity to observe and treat these men or the so-called psychopaths under conditions which are better than those in civilian penal institutions. In addition, this study should be part of a carefully planned follow-up program.

(9) *A Suggested New Form of Discharge for Some Type of Ineffectuals:*

For new trainees who have difficulty in adjusting due to ineffectuality which is recognized early, the form of discharge which combines some of the features of AR 615-361 (CDD), AR 615-365 (Convenience of the Government), and AR 615-369 (Lack of Adaptability) is suggested.

When it is discovered early that the soldier does not meet the minimum standards for induction under the provisions of MR 1-9 and cannot be adapted to the military service because of a marked degree of ineffectuality a good deal of which is on physical, emotional, or personality defects basis and in which there is no associated manifestations of misconduct, the psychiatric or medical implications may be overlooked if a discharge in accordance with AR 615-369 is granted. In the case of an overseas veteran with three or four years of service, if the inadaptability is recognized early on his return and there is no associated misconduct, a CDD or a period of hospitalization is the preferable means of disposition. However, if it is felt by the hospital disposition boards that there is insufficient reason for CDD and still the soldier cannot be adapted, a discharge in accordance with AR 615-369/9 may be unwarranted, particularly if no associated misconduct can be established. He may be discharged in accordance with AR 615-365. A special type of CDD could be established for this type of overseas veteran which implies an acute situational difficulty and combines the features of AR 615-365 and/or 369. Preferably, he should be sent to a convalescent center, general hospital, or veteran's hospital. Certainly every effort should be made as stated in WD Circular 233 and 196 to utilize those who do not fulfill the minimum standards for induction under the provisions of MR 1-9, particularly if specific adaptive skills can be stimulated or are possessed by the soldier and if he is an overseas veteran.

In some ways discharge in accordance with AR 615-369 may be unsatisfactory at times because the line drawn between the emotionally upset or "neurotic" soldier who receives a CDD and the soldier who receives a white administrative discharge is often a very fine one. Similarly, the line between discharge under AR 615-368 and under AR 615-369 is also very thin. Thus one soldier may receive a discharge in accordance with AR 615-369 in one place while another with identical manifestations may be discharged under AR 615-368 in another installation. A soldier who may be considered for disposition by AR 615-368 or AR 615-369 at one training center may receive a CDD at another training center. New trainees were particularly affected by these differences of opinion.

It should be possible to modify AR 615-369 and design an intermediate type of medical-administrative discharge. A soldier may have been "neurotic" for many years prior to induction or may have a somatic disease of long

standing which has been discovered after he has been in the Army for a short time. A soldier may not respond to psychotherapeutic procedures. His condition may not have been aggravated by his Army experience. He may have been erroneously inducted despite his handicaps. He may lack special adaptive capacities or skills. Because of several disabilities which do not alone entirely incapacitate him he may be inadaptable to the Army. An intermediate type of discharge between AR 615-361 (CDD), the AR 615-369 (Inadaptability), and AR 615-365 (Convenience of Government) may be recommended for these types.

This discharge would indicate a disability which though partially medical in nature is not without administrative foundations as the soldier cannot be utilized in the Army. His condition has not been aggravated by Army service, and the soldier is not entitled to pension privileges for his medical condition. It might also state the non-remedial situational difficulty. It would imply that there is no need to expend further effort in making this man a soldier because of his handicaps and therefore would indicate that this soldier was discharged through no fault of his own as soon as it was found that he could not be used in the Army. This removes the stigma of general permanent lack of adaptability or purposeful misconduct. All the differences of opinion over the fine points as to whether a man if "psychoneurotic," emotionally unstable, or an inadequate are reconciled after complete psychiatric study. However, whatever the decision, the individual will not be stigmatized.

This type of discharge might indicate that he was erroneously inducted and that he has a medical psychiatric problem rendering Army service impossible but that he may function in civilian life. That he is ineffectual for emotional reasons which have received medical treatment but which have not improved his ability to carry on in the Army. If he is a new trainee he should not be considered as a man who has rendered any Army service. The psychiatrist can be expected neither to cure all peopie with even moderate emotional ills or to render every one adaptable to the military service. Finally, the Army cannot always remove for every individual all the situational barriers to adjustment.

A longer period of study at the induction center by a Personnel Consultation Service set-up would aid in eliminating or minimizing erroneous induction. Further observation of the man in a special battalion in a barracks clinic unit or in an assignment specially designed for his special skills and graded to the level of his handicaps may be necessary. If a man cannot adjust under the more simplified conditions of Army life to which he is exposed in these units, he obviously will not be of much value as a soldier. Therefore, he can be separated on a medical-administrative basis on the thesis that there will always be a small percentage of men whom we cannot train to be soldiers. It should be definately stated that this man was not considered to have served as a soldier since he was proven medically and administratively incapable of performing duty during a preliminary trial period. This event could or could not have been foreseen prior to induction. This procedure therefore would serve as a further check on draft board and preinduction medical and psychiatric examinations.

Resumé

In the accompanying chart are summarized the proposals in regard to the manner in which the Personnel Consultation Service would function.

1. Pre-induction screening and study by the mental hygiene team in coordination with civilian mental hygiene units (including a program of orientation and preparation) is the first step.

2. Induction Station.

Preliminary study, evaluation, segregation and early follow-up studies are begun. A rough prognostic index of each trainee is arrived at. Study for at least one month is necessary.

3. At the Training Center.

Further segregation is attempted with the help of classification officers and others in all training units beginning with the squad. Study of the individual soldier's behavior in relation to his group is continued.

4. Depending on the individual soldier's assets or liabilities, he is either

a. Retained in the Training Center,

b. Referred to a special unit for specialized training in line with his capacities,

c. Housed in a special barracks in a non-hospital atmosphere for further study and observation.

5. The Personnel Consultation Service office itself functions as a head or coordinating center and as a first echelon of a planned mental hygiene program. It makes a fairly complete initial and then intermediate type of study of those individuals who continue to fail to adjust and stresses prevention, proper assignment, disposition or treatment. However, it also follows up those soldiers in need of further study.

6. If an individual requires a greater amount of observation and treatment than can be given in the first place, he and all his records are referred to the second echelon clinic for more complete evaluation under controlled conditions. This allows for better understanding of the individual. A more thorough investigation would be made. A less hasty decision would be arrived at and a more definite psychotherapeutic program would be planned for the soldier.

7. After more thorough study at the second echelon clinic, it may be decided that the soldier who presents the more serious problem is in need of

a. Hospitalization (Station hospital or general hospital) for further treatment of his psychiatric condition and further conference with the Personnel Consultation Service psychiatric unit so that the soldier may be adequately cared for.

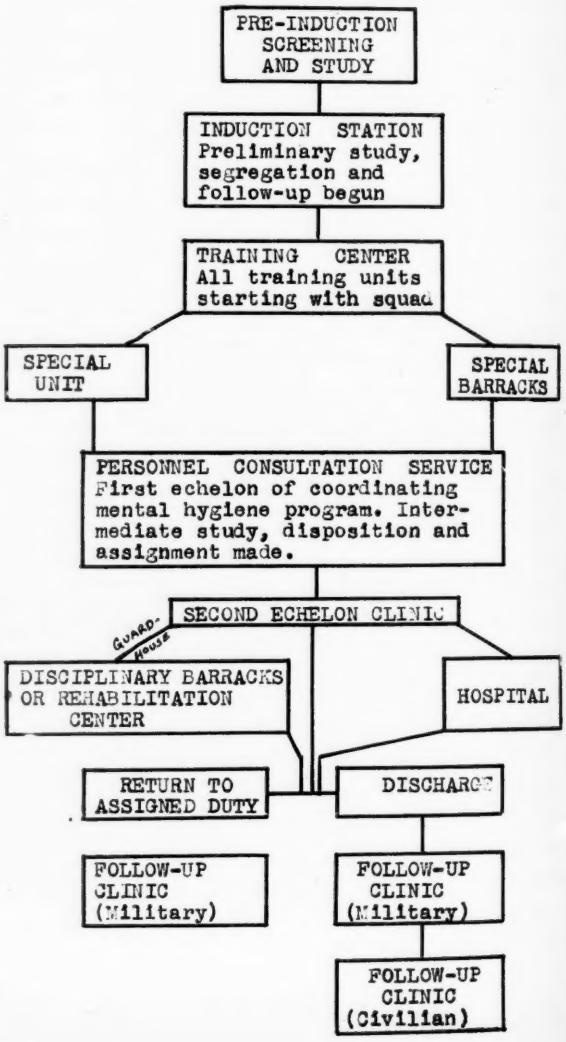
b. Disciplinary Rehabilitation and Reconditional Education in an administrative unit such as a guard house rehabilitation center or disciplinary barracks. There a sub-unit of the Personnel Consultation Service functions and thorough study is made of the problem of misconduct or anti-social behavior. Rehabilitation, correction reconditioning study and research rather than punishment per se should be the aim of these units.

8. After a thorough period of study and treatment at either the hospital or the rehabilitation center

a. The soldier may be returned to an assigned duty which is carefully chosen to meet his capabilities; he should be observed further by a unit of the Personnel Consultation Service which acts as a follow-up clinic or

b. The soldier may be discharged. Here, too, part of the Personnel Consultation Service unit particularly the social service or American Red Cross unit should make detailed studies of his progress in civilian life. A close relation should be maintained with civilian agencies and institutions which can act as liaison follow-up clinics in conjunction with the Personnel Consultation Service. This entire program affords a fertile field for extensive research in mental illness since it more completely studies the ineffectual soldier before induction and after discharge. It would be of

PLAN AND METHOD OF EXPANDING THE FUNCTION OF THE PERSONNEL CONSULTATION SERVICE


PRE-INDUCTION SCREENING AND STUDY
INDUCTION STATION Preliminary study, segregation and follow-up begun
TRAINING CENTER All training units starting with squad
SPECIAL UNIT
SPECIAL BARRACKS
PERSONNEL CONSULTATION SERVICE First echelon of coordinating mental hygiene program. Intermediate study, disposition and assignment made.
SECOND ECHELON CLINIC
GUARD-HOUSE
DISCIPLINARY BARRACKS OR REHABILITATION CENTER
HOSPITAL
RETURN TO ASSIGNED DUTY
DISCHARGE
FOLLOW-UP CLINIC (Military)
FOLLOW-UP CLINIC (Military)
FOLLOW-UP CLINIC (Civilian)

particular value in the case of the so-called psychopath who engages in misconduct.

Conclusion

The Personnel Consultation Service of the future should concern itself with a centralized effort to effectively serve the Army and the community with respect to: (1) Prognosis; (2) Prevention; (3) Planning for the future; (4) Programs of coordinated treatment; (5) Problems of research and revision of older concepts; (6) Production of new knowledge with regard to human behavior.

Brain Tumor and Cerebral Vascular Disorders

(Differential Diagnosis)

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Brain tumors in adults occur with the greatest frequency during the fifth and sixth decades of life. This is also the period in which syphilis and vascular processes make their appearance and later on the changes of old age are evidenced. This situation was aptly expressed by Hastings[1] since "....tumor occurs at an age which also includes the blood vessel catastrophies, the effects of syphilis on the brain, and the damages of senility, diagnosis may become very difficult indeed and at times impossible." Reports in the literature are eloquent reminders of the correctness of this statement. Ordinarily a neurologic disorder tends to conform to a certain pattern, whose appearance is of help in making a diagnosis. It is usually the complete or partial absence of such an accustomed configuration which creates difficulty in differential diagnosis.

In the past two years we were confronted with differential diagnostic difficulties in five cases. In four of them the correct diagnosis was reached in the lifetime of the patient. Three were gliomas and the patients eventually succumbed to the illness. One case was a meningioma in which the tumor was removed and the patient is getting along well. In the fifth case the clinical diagnosis was vascular encephalopathy and at autopsy the patient showed not one, but two, glioblastomas in the same hemisphere. Although no harm came to the patient through lack of the correct diagnosis, the tumors being inoperable, nevertheless the case emphasizes difficulties presented and prompted a review of this problem.

It is customary to divide the clinical symptoms of brain tumors into general and localizing. Among the former, headache, choked discs, and vomiting are considered the cardinal symptoms by reason of their frequent occurrence in and association with increased intracranial pressure. Elsberg and Globus[2] found as the first symptom in rapidly progressive tumors with acute onset, headache in about 95 per cent of the cases. Choking was present in 70 per cent and vomiting in 51 per cent. It is interesting to note that drowsiness was manifested by 68 per cent of the patients, being almost as frequent a symptom as choked discs. In Hasting's series, on the other hand, only 9 out of 25 cases exhibited headache. It is unfortunate that these symptoms may be absent entirely, or in part, in the individual case. It is well to remember that a rapidly developing neoplasm is more likely to have the general symptoms noted than a more slowly growing, infiltrative, or compressing tumor. Because they are not absolute signs and do not appear in every case, the general symptoms are useful only when present but their absence does not exclude the possibility of a brain tumor. Of the localizing signs the most reliable indication to arouse suspicion of a brain tumor is progressive loss of function. Difficulties usually arise in those cases in which neither of the signs is clearly in evidence.

In the older age group even a rapidly de-

veloping brain tumor may be without these cardinal signs, as in one of our patients, a 69 year old man, admitted with the complaint that he had become confused, retarded and forgetful. Clinical examination failed to show evidence of increased intracranial pressure and only further studies pointed toward a tumor. In another of our cases symptoms of acute onset pointed to a vascular process in the midbrain but later the typical signs of increased intracranial pressure were revealed. Moersch, et al[3] registered among 100 cases of brain tumors in aged persons, headaches in 23 and mental symptoms in 17 as first symptoms. At the time of the examination of the patients headache was complained of in only 15 cases and choked discs were found in 32.

In the absence of increased intracranial pressure the first thought in most of these cases, will be that of cerebro-vascular accident. The sudden, often apoplectic onset, simulates this condition very closely. Indeed, this is probably the most common diagnostic error. Hastings reported a group of 25 tumors discovered at autopsy of which 19 had been diagnosed clinically as cerebro-vascular accidents. Why the diagnosis of vascular condition in such cases? The answer is obviously referable to the coincidence of the two conditions in the same age group and the probably more important similarity of acute onset and seeming improvement combining to make the diagnosis of a vascular accident more attractive, particularly if, as often happens, mild or moderate arterial changes are also in evidence. We fell into this pitfall, attaching undue significance to a blood pressure reading between 170/100 to 150/95 in a man who also showed a slightly enlarged heart.

Certain clinical manifestations, observed both in tumor and vascular disease, with varying emphasis, may tip the scales in the right direction. The occurrence of focal seizures is one. Although they occur in arteriosclerosis, the seizures are more in keeping with a neoplasm, particularly if followed by transient weakness. A 56 year old man, observed by us, falls into this category. He had shown signs of general arteriosclerosis and developed twitching of the left side of the face. An electroencephalogram was not helpful. He was kept under observation and about a year after the initial attack, choking of the discs appeared. A meningioma was removed at operation.

Another point worth noting is that in cerebral vascular accidents unconsciousness lasting over 24 hours has a grave prognosis, yet many a patient harboring a brain tumor remains unconscious for one or two days and thereafter shows a spectacular comeback. Rabiner[4] graphically described still another aspect. In a cerebral thrombosis the condition often is ingravescent. Yet, as he points out, this differs from the "piecemeal" appearance of a hemiplegia in a brain tumor. In neoplasms it is not infrequent to see first the arm, then the leg, and finally the whole side involved. Whereas, in a true cerebrovascular accident, there is about equal involvement of the whole side throughout the development of the illness. This was illustrated in one of our cases. A 59 year old man admitted with a history of a stroke, having fainted while picking up a piece of concrete pipe. He was unconscious for two hours but afterwards he felt well enough except that he was unable to do any sustained work. However, two months later he began to shuffle with his left foot and then lost control of the left hand and finally his whole left side became paralyzed. Such slowly progressive lesions of a piecemeal development are strongly suggestive of a neoplasm.

Another identifying feature is the occurrence of mental changes, characterized by confusion, memory disturbance, and inability to sustain attention. These, in the absence of any localizing signs, are often considered evidence of cerebral arteriosclerosis. McIntyre and McIntyre,[5] in their review, point out that a number of patients with brain tumor are committed to psychiatric hospitals due to personality changes, the classical symptoms of a brain tumor being absent. They estimate that of the deaths of inmates in state hospitals between 3.5 to 6.7 per cent were found, on autopsy, to be due to brain tumor. Zfass and Riese[6] reported 10 brain tumors in 205 routine autopsies performed in a state hospital and not suspected during life. Such error is possible, particularly with tumors growing in the "silent" regions of the brain, chiefly the frontal lobes, whose involvement may produce an organic mental picture.

Arenson and Ginsberg[7] also reported two cases, diagnosed psychoses with cerebral arteriosclerosis, in which the concomitant cerebro-vascular disease masked the brain tumor found at autopsy.

On the other hand there are vascular conditions closely resembling brain tumors, causing the diagnosis of brain tumor to be erroneously made. Riley and Elsberg[8] divide vascular cases simulating intracranial neoplasms into the abrupt type caused by the occlusion of a large vessel and the progressive, or widespread type, where there is involvement of smaller vessels. In the first type, headache is a common prodromal symptom followed by acute onset. Then there may be rapid improvement. The second type often has an insidious and progressive course causing bilateral symptoms and mental changes. Remissions again occur. In both types vague prodromal symptoms may exist for some time before neurologic signs become manifest. Increased intracranial pressure may exist in cases of multiple softening, further confusing the issue, and may lead to the assumption of a brain tumor (Moore[9]).

Globus and Strauss[10] devoted a study to cases in which one or more of the general symptoms of brain tumor or the protracted clinical course or transient motor symptoms suggested neoplasm but which actually were occasioned by vascular causes. A further difficulty is that vascular changes, secondary to a tumor, may dominate the clinical picture. Riley and Elsberg emphasized this particular feature describing cases in which on operation, a vascular condition was seen but the deep seated tumor discovered on autopsy was really responsible for the vascular involvement.

This review of the literature plus our own experiences pose the inevitable question: are there any workable criteria for differential diagnosis between brain tumor and vascular disease? Mention was made that the so-called cardinal or classic symptoms of brain tumor cannot be relied upon because they are not necessarily present in the individual case or they may appear late in the course of the illness. This is particularly true in the older age group where atrophy of the brain or its reaction to the new growth is less pronounced or may be absent entirely and yet a neoplasm may be developing. Contrary to some opinion, we feel that in every case of suspected brain tumor without definite signs of increased intracranial pressure, a lumbar puncture should be performed. The pressure, shown by manometric reading, may be increased although the other customary signs of increased pressure are missing. In two of our subject cases increased spinal pressure was the first indication and we have had occasion to observe this repeatedly. A carefully done spinal tap to obtain pressure measurement will do no harm if no fluid is removed if there is an increased reading. It is true, of course, that in about 30 per cent of cases there is no increased intracranial pressure on spinal tap which sign, too, is useful only if present. The amount of protein content of the fluid we also consider an inconclusive sign.

There are, however, two clinical features of this problem of differential diagnosis which deserve particular emphasis. The first is the progressive nature inherent in the development of a brain tumor. Vascular diseases may simulate this particular complexion of a brain tumor closely but if one is fortunate enough to obtain a complete history, pertinent differences may appear. In our own experience, review of the patient's history at the time the case was presented in conference oftentimes made us wonder in retrospect why there was any question at all in the beginning. In analyzing the problem, it was brought out that a detailed chronological history was not available until after the patient had been observed for awhile. A careful history will often assemble facts pointing toward brain tumor or vascular disorder.

A second point on which to place stress is that the diagnosis of vascular disorder should not be accepted unless the general physical examination furnishes satisfactory findings to support such an etiology and the patient's illness developed in line with the usual development of cerebral vascular conditions. Although general systemic arteriosclerosis is not a prerequisite to cerebral sclerotic changes, any incomplete or atypical disorder which might conceivably be vascular should make one look for the possibility of a brain tumor.

It is a disconcerting clinical experience that in older people slowly growing gliomas are the exception. Glioblastoma multiforme is the

most common form among the gliomas found in older people, especially those past 60. The prognosis is, therefore, poor, even though the correct diagnosis has been established. Moersch, et al, listed the following sequence in the frequency of brain tumors in older people: 1) glioblastoma; 2) meningioma; 3) eighth nerve tumor. It is interesting to note that meningioma with its slow and protracted development may cause the same diagnostic difficulties as the rapidly growing explosive glioblastoma. Generally speaking, glioblastomas are more likely to simulate vascular accidents because of vascular accidents occurring in the tumor itself. Meningiomas, on the other hand, are more likely to cause focal progressive changes or mental alterations. The rapidly expanding glioblastomas, too, may produce mental changes, particularly in the form of rapidly developing and unexplained confusions and drowsiness.

In summary it may be stated that no definite clinical criteria can be set up for these cases. Every case requires individual interpretation. In a very general way one may state that cases which are not entirely compatible with vascular lesions should be scrutinized for brain tumor. These are the cases in which spinal fluid examination, electroencephalogram, x-ray and air studies are the further steps in arriving at the correct diagnosis. Such procedures appear justified in view of the possible benefit the patient may derive from it. One should be mindful of the fact that brain tumors occur in all age groups. Even then one will not entirely escape disappointment.

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A Survey of 5,000 Psychotic Patients

(Evacuated to a U. S. Naval Hospital from the Pacific; and a Rehabilitation Program)

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Military psychoses resemble in many ways those seen in civilian life with, however, some noteworthy differences. The onset of the illness is more often sudden and the course more frequently rapid. Thus observation of a consecutive series of 5,000 patients received at our hospital during a two-year period disclosed that after relatively short hospitalization overseas, about 40 per cent were in a state of remission, or "social recovery," by the time they were returned to the United States. Another 30 per cent, it was found, were well enough within three to four more months to return to their homes. The remaining 30 per cent showed a more malignant type of illness. The total group included officers and men of the Navy, Marine Corps and Coast Guard. Although the majority had had duty in combat areas prior to the onset of their illness, in not over 10 per cent of the cases could it be determined that combat played any direct precipitating role. Most of them had been hospitalized for from one to four months before they were evacuated to our 300 bed receiving center on the West Coast.

The reasons for this comparatively favorable prognosis in the majority of military psychoses comprise: (1) the youth of the patients, (2) the usual absence of previous frank psychotic episodes or marked prepsychotic trends, and (3) the appearance of the psychosis only after the patient's subjection to more stress than is ordinarily encountered in civilian life. There are several precipitating factors inherent in military life, including the release of overwhelming aggressive drives by combat situations, the stimulation of self-preservative drives by danger, and the frustration of dependency drives by prolonged enforced separation from the family. A removal of these etiologic influences by the return to this country from overseas at least partially accounts for the rapid improvement in a substantial number of cases.

The patients who are well along the road to convalescence at the time of their return do not require much special treatment. Brief psychotherapy of a light "covering over" sort, group recreational activities and occupational therapy, a judicious amount of liberty while awaiting discharge, and vocational reorientation, with a useful job as the goal, serve to prepare these veterans for return to civilian life.

The remaining patients are apt to require more active treatment if a prolonged illness is to be avoided. As in civilian cases, shock therapy is the procedure of choice. In our hospital the selection of cases has been made on both administrative and clinical grounds. Thus only a moderate number can be treated at one time because of the necessity of maintaining vacancies by fairly rapid transfer of patients requiring further hospitalization. The group chosen for shock treatment has been composed largely of the sickest patients who clinically offered some reasonable expectation of favorable response. These included the major depressions, the confused and bewildered schizo-affective reactions, and the catatonic stupors, some of the last group having proved to be quite malignant disorders.

Preliminary studies before shock therapy include, besides thorough psychiatric interviews, a radiographic examination of the spine and a medical consultation. Then because of its established safety, ease of administration, and therapeutic effectiveness, a course of electroshock treatments is given. It is worth mentioning here that an apparatus delivering a unidirectional current has been found to be definitely superior to the alternating current types usually employed. Also a temporal-vertex system of electrode leads requires for a convulsive dose only about half the current needed in the conventional bitemporal system of leads. Since the amount of

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transient confusion and sensorial disturbance is minimal with this method, the treatments can safely be given daily to patients in profound regressive states, while every other day is sufficient for the remainder.

The total number of treatments is of course determined by the response of the individual, but substantial progress should be apparent by the 10th or 12th. If not, insulin sub-coma therapy may be given in combination with succeeding electric treatments, to the total of 20 to 30 of the latter.[1] For best results the insulin should be continued daily for from four to six weeks.

Because of the existing confusion about terms and methods, a word of explanation about insulin shock therapy will be helpful. In producing hypoglycemic reactions we attempted each time to have the patient reach the moderate stupor level, or "half-shock," and tried to prevent his going into coma, or "full-shock." We hold that this half-shock type of insulin reaction combines the therapeutic effectiveness of full shock and safety of so-called "sub-shock" levels, in which condition the patient does not show more than hunger, diaphoresis, and perhaps some drowsiness. In the stage of "half-shock" the patient therefore reacts to such stimuli as supra-orbital pressure and pin pricks and shows normal corneal and gag reflexes, but is not sufficiently conscious to be able to drink the sugar solution without first having an injection of intravenous glucose. In our patients the insulin dosage necessary to produce half-shock varied greatly (from 30 to 200 units) but the average was about 90 to 110 units.

It has been demonstrated that one-third to one-half of the patients responding unsatisfactorily to electroshock alone can be salvaged by combined therapy as outlined above. The principal obstacle to insulin shock therapy is the amount of time and supervision required, but this is mitigated by stopping short of full coma reactions. Psychotherapy at a fairly superficial level, in the form of "support" and reeducation, should follow either method of treatment.

Results of Shock Therapy:

Total treated		161
Recovered:	107	(66%)
Improved:	21	(13%)
Unimproved:	33	(21%)

Illustrative Cases

Case No. 1: Manic-depressive Psychosis (Electroshock). Patient V.O.M., a 22-year-old MoMM2c, was admitted to the sick list aboard ship in June 1944, because of increasing tenseness and apprehension, following extensive combat duty. He became progressively anxious, melancholy, and retarded, finally making a serious suicidal attempt. When examined after evacuation to our hospital he was anorectic, insomnious, and deeply depressed. A course of eight electroshock treatments, begun in September 1944, resulted in complete remission, the patient remaining cheerful, alert, and spontaneous.

Case No. 2: Schizophrenia (Electroshock). Patient A.A.K., a 20-year-old Pfc., was admitted to the Division Field Hospital in February 1944, because of marked weight loss, apathy, and depression, developing after combat on Bougainville. Despite care in two other Naval Hospitals, his condition deteriorated slowly, until he was completely listless, seclusive, and unspontaneous. Two pentothal interviews here were completely unproductive, but a course of ten electroshock treatments, begun in September 1944, resulted in a complete reintegration of personality, the patient being energetic and cheerful on his discharge.

Case No. 3: Schizophrenia (Combined Therapy). Patient W.E.P., a 19-year-old Pfc., was admitted to the sick list in the field in September 1944, because he was discovered wandering around mute and in a "trance," following combat. He regressed rapidly and by the time of his arrival at our hospital was in a profound catatonic stupor, being untidy, out of contact, and requiring daily tube-feedings. A course of twelve electroshock treatments, instituted in October 1944, resulted in only moderate improvement, with much residual emotional stiffness. Consequently he was given a month's insulin sub-coma therapy combined with six more electric treatments. Complete alleviation of all psychotic symptoms resulted, also a weight gain of 35 pounds.

Discussion

Although, as has been frequently pointed out by others and confirmed by this survey, a large number of psychotic reactions in the Armed Forces are acute and fulminating and often subside within a week to a month, it should nevertheless be emphasized that a sizeable number of the remainder require active intervention on the part of the therapist to prevent their becoming chronic. Half-hearted, inadequate treatment is almost no better than none at all. On the basis of observation of a large number of similar cases given only routine hospital care, it seems safe to say that the majority of the patients in our shock treatment group would have, in

its absence, become institutional cases with a generally none too favorable prognosis. Incidentally, it might be pointed out that, purely on an economic basis, aside from medical or humanitarian considerations, it has repeatedly been demonstrated that shock treatment saves many dollars for the government and work days for the patient. On the other hand, it should be stressed that if this treatment is too long delayed, not only are time and money wasted, but the therapeutic results are less favorable. Fortunately, many of the patients that could not receive shock therapy at our hospital because of wartime conditions, were later able to obtain this after transfer to another hospital for institutional care.

What is the Outlook on Return to Civilian Life?

The question is frequently asked by relatives and by the patient himself about the chances of his becoming sick again. It is of course much too soon to draw any valid conclusions, but it seems justifiable to venture that the majority will make the transition fairly easily and will continue to adjust satisfactorily. Considering the acute nature of so many of these military psychoses, the rapid course of the illness, and the spontaneous and frequently complete reintegration of personality without residual symptoms, it would seem that a relatively small percentage of patients should suffer recurrences. The prognosis in the shock treatment group is probably better than average for these types of patients if the treatment course is adequate.

Summary

A survey of 5,000 patients reveals that military psychoses bear many close similarities to those of civilian life but that there are some noteworthy differences, especially in the precipitating factors peculiar to operational conditions. The removal of these etiologic influences by evacuation to the United States accounts for the favorable prognosis in over two-thirds of the patients. Thus 40 per cent were "socially recovered" on arrival and another 30 per cent were in varying stages of convalescence. In these groups superficial psychotherapy and vocational reorientation usually suffice to bridge the transition to civilian life. On the other hand, a sizeable number of patients require special treatment lest their psychotic reactions progress into a chronic state. In these cases an adequate course of electroshock therapy, sometimes combined with insulin sub-coma treatment, is strongly indicated. It would appear that in general the outlook for the future is considerably better than in the psychoses encountered in civilian life.

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Book Reviews

MEDICAL EDUCATION AND THE CHANGING ORDER. *By Raymond B. Allen. New York: The Commonwealth Fund, 1946. Pp. xi-142.*

The acceleration of the medical school program during the war, the result of problems of reorganization and the bitter lessons learned both in military and civilian experience of what constitutes adequate training for the effective practice of medicine are now resulting in an increasing realization that the teaching of medicine needs extensive revision.

Outmoded methods, established procedures, the blind allocation of hours without an understanding of the actual learnings to be achieved and the continuance of emphasis upon traditional concepts of what constitutes medical teaching are now receiving critical surveys and appraisals as preliminaries to needed drastic alterations.

This book by Dean Allen constitutes an effective exposition of his observations upon medical education, the problems with which he as a medical educator has dealt and his understanding of the future developments in medicine in relation to a changing social order. Those interested just in the practice of medicine will be as intensely interested in this book as those teaching in medical schools or those concerned with broadening social developments. The last two paragraphs of the book deserve quotation:

> "Medicine, with its age-old concern for the sick—the poor as well as the rich, the weak as well as the strong, has been an influence for good surpassed only by the moral precepts of religion. The services of medicine, like those of religion, have been largely personal. While there will always be a need for personal services, medicine of the future, if it is to progress as a social as well as a biological science, must broaden its outlook and adjust its educational program accordingly. Medicine is coming of age as a social science in the service of society.
>
> It takes a man, not a machine, to understand mankind."

SURGICAL TREATMENT OF THE NERVOUS SYSTEM. *Ed. by Frederic W. Bancroft and Cobb Pilcher. Philadelphia: J. B. Lippincott Company, 1946. Pp. xvii-534.*

The following paragraph from the preface constitutes a legitimate appraisal for this book:

> "In no other single volume will be found the assembled opinions of so many different competent authorities on the various problems of neurosurgery. Each author has approached his subject in his own way and any attempt at standardization of the various chapters has been deliberately avoided. Such a treatment of the subject affords not only highly authoritative opinion on individual subjects, but a healthy diversification of opinion on neurosurgical problems as a whole."

Seventeen authors, fully competent in their fields, have produced an excellent textbook, readable, comprehensive, authoritative and inclusive of the developments stimulated by the war. For each type of problem there is an adequate presentation of the anatomy, pathology, diagnostic, surgical and treatment procedures. The fields covered are: cranial and intracranial surgery in relation to congenital, traumatic and inflammatory disorders, tumors, cranial nerve disorders, involuntary movements and epilepsy and the surgery of the spinal cord, peripheral nerves and sympathetic nervous system. A final section deals with chemotherapy in neurosurgery. The book is highly recommended to medical students, the neurological surgeon and to everyone desirous of a modern view of clinical neurosurgery.

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